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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/534,466	05/11/2005	Juerg Zellweger	26764U	6956

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Alexandria, VA 22314

EXAMINER

ROST, ANDREW J

ART UNIT	PAPER NUMBER
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3753

DATE MAILED: 11/29/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/534,466	<b>Applicant(s)</b> ZELLWEGER, JUERG	
	<b>Examiner</b> Andrew J. Rost	<b>Art Unit</b> 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 05 September 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. This action is in response to the Amendment filed on 9/5/2006. No claims were canceled. Claims 1-14 have been amended. Claims 15-23 have been added. Presently, claims 1-23 are pending.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sands (3,085,589) in view of Larbuisson (5,806,832).

Regarding claim 1, Sands ('589) discloses a safety valve (20) having a valve member in a housing (28) that is guided in a track (41) in a motional direction from an open position to a closed position (moves in direction as seen in Figure 4 to Figure 5) with the valve member having interfering means (impeller disc 44 and O-ring 47) that aid in moving the valve member in response to a change in pressure (Col. 2, lines 36-40). Sands does not disclose a collecting cone acting as a lock. However, Larbuisson teaches a cone portion (14) that projection to secure a movable member into a locked position. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention as made to provide a locking mechanism of Larbuisson to the safety valve of Sands in order to prevent backflow of fluid and will be automatically locked and

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may only be released by the application of manual means as taught by Hayward (1,125,315).

In regards to claims 2, 3 and 15, Sands ('589) discloses a series of baffles sticking out into the flow cross-section (baffles being the impeller disc 44 and O-rings 47).

4. Claims 1, 4-8 and 10-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sands (3,683,957) in view of Larbuisson.

Regarding claim 1, Sands ('957) discloses a safety valve (10) with a valve element in a housing (11, 12) and the valve element being a rotationally symmetrical closing body guided in the housing in at least one direction (movement of the closing body is shown in Figure 1 and Figure 3) and the closing body having interfering means (disc 31 in association with valve surfaces 40, 41) that affect the flow through the passage (C). Sands does not disclose a collecting cone acting as a lock. However, Larbuisson teaches a cone portion (14) that projection to secure a movable member into a locked position. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention as made to provide a locking mechanism of Larbuisson to the safety valve of Sands in order to prevent backflow of fluid and will be automatically locked and may only be released by the application of manual means as taught by Hayward (1,125,315).

In regards to claims 4-8, Sands ('957) discloses the safety valve having at least one interfering edge (a first edge is defined as being between the valve surface 40 and

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the disc 31 and a second edge is defined as being between the disc 31 and the valve surface 41) with the at least one interfering edge is disposed on the outer diameter of the closing body (Figure 1) and the closing body having two differently inclined surfaces (conical end 36 and valve seat 40 are different angles) and the differently inclined surfaces meet in the area of a valve seat (25) when the valve is in a closed position and the inclined surfaces start as a conical shape (conical end 36) and ends in a frustoconical path (incline of valve seat 40 is in the form of a frustoconical shape as seen in Figure 1).

In regards to claim 10, Sands ('957) discloses the safety valve having the interfering edge formed at angle between  $60^{\circ}$  and  $179^{\circ}$ .

In regards to claim 11, Sands ('957) in view of Larbuisson disclose a safety valve (Fig. 14, Fig. 15) having a closing body (V) guided in a housing (B) with interfering means on the outside of the housing (91) that create a turbulent flow and a catching cone with the interfering means forming an angle less than  $180^{\circ}$  and forming a recess (the slope of the interfering means as the interfering means contact the recess (93) is less than  $180^{\circ}$ ).

In regards to claim 12, Sands ('957) discloses a hollow body (the body is hollow that allows the shaft to run through the body).

5. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sands ('957) in view of Larbuisson and further in view of Applicant's admitted prior art (Applicant's specification, page 1, last paragraph lines 4-6).

Sands ('957) in view of Larbuisson discloses a safety valve configured as a hollow body with a conical latch and are of two identical halves. The modified Sands ('957) reference does not disclose constructing the valve member of sheet metal. However, Applicant's admitted prior art discloses that forming closing bodies of sheet metal and of a hollow body nature in order to keep the inert mass as small as possible to be old in the art (Applicant's specification, page 1, last paragraph, lines 4-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the valve member of the modified Sands ('957) reference of sheet metal as taught by Applicant's admitted prior art in order to keep the inert mass as small as possible.

6. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sands ('957) in view of Larbuisson and further in view of Payton (4,562,861).

Sands ('957) in view of Larbuisson discloses a safety valve configured as a hollow body with a conical latch and are of two identical halves. The modified Sands ('957) reference does not disclose an interfering edge on the housing. However, Payton discloses an interference ring (constriction 3) extending into a flow path to influence the movement of the valve member. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the interference means of the modified Sands ('957) reference on the housing as taught by Payton in order to provide an alternative form of flow control to influence the movement of the valve member with the creation of a turbulent flow.

7. Claims 17-21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sands ('957) in view of Payton.

Regarding claims 17 and 23, Sands ('957) discloses a rotationally symmetrical closing body that is guided on the interior portion of a housing that can be pushed from an open position to a closed position by dynamic pressure in two directions. Sands ('957) does not disclose the placement of interfering means on the inner side of the housing. However, Payton teaches the use of a constricted flow region on the interior portion of the housing in order to influence the movement of a valve member and to create a turbulent flow. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to provide the turbulence inducing means of Sands ('957) on the housing as taught by Payton in order to provide an alternative form of flow control to influence the movement of the valve member.

In regards to claims 18-20, Payton teaches the placement of an interference means (flow constriction 3) that juts into the flow cross-section in the area of the valve member.

In regards to claim 21, Sands ('957) discloses the closing body to be hollow (the body is hollow that allows the shaft to run through the body).

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sands ('957) in view of Payton and further in view of Applicant's admitted prior art (Applicant's specification, page 1, last paragraph lines 4-6).

Sands ('957) in view of Payton discloses a safety valve configured as a hollow body with a conical latch and are of two identical halves. The modified Sands ('957) reference does not disclose constructing the valve member of sheet metal. However, Applicant's admitted prior art discloses that forming closing bodies of sheet metal and of a hollow body nature in order to keep the inert mass as small as possible to be old in the art (Applicant's specification, page 1, last paragraph, lines 4-6). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to construct the valve member of the modified Sands ('957) reference of sheet metal as taught by Applicant's admitted prior art in order to keep the inert mass as small as possible.

### ***Response to Arguments***

9. Applicant's arguments with respect to claims 1-14 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kail (1,218,089) teaches the use of a latch member in gas valves in order to provide a safety feature that needs to be manually reset upon gas flow failure.

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP



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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-2711. The examiner can normally be reached on 7:00 - 4:30 M-Th and 7:00 - 12:00 Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eric Keasel can be reached on 571-272-4929. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJR, ASR 4/27/06

A handwritten signature in cursive script, reading "Eric Keasel".

ERIC KEASEL  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3700